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Units
9.-Thermodynamics
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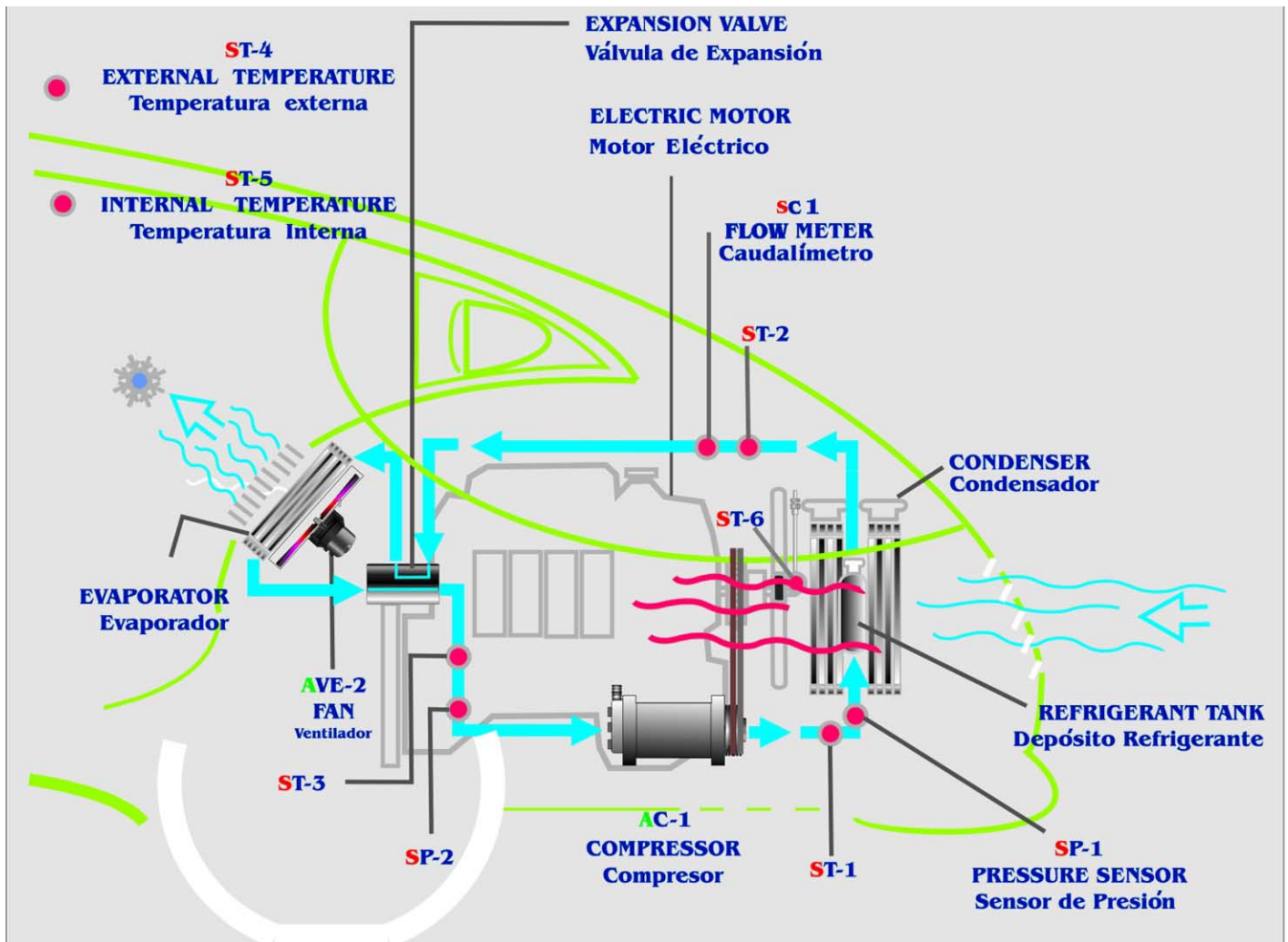
DESCRIPTION

The automobile air conditioning unit (TAAU) introduces the student in the world of the air conditioning installations, as well as allows studying and determining the optimum parameters for the unit functioning with regards to the basic functions of an automobile.

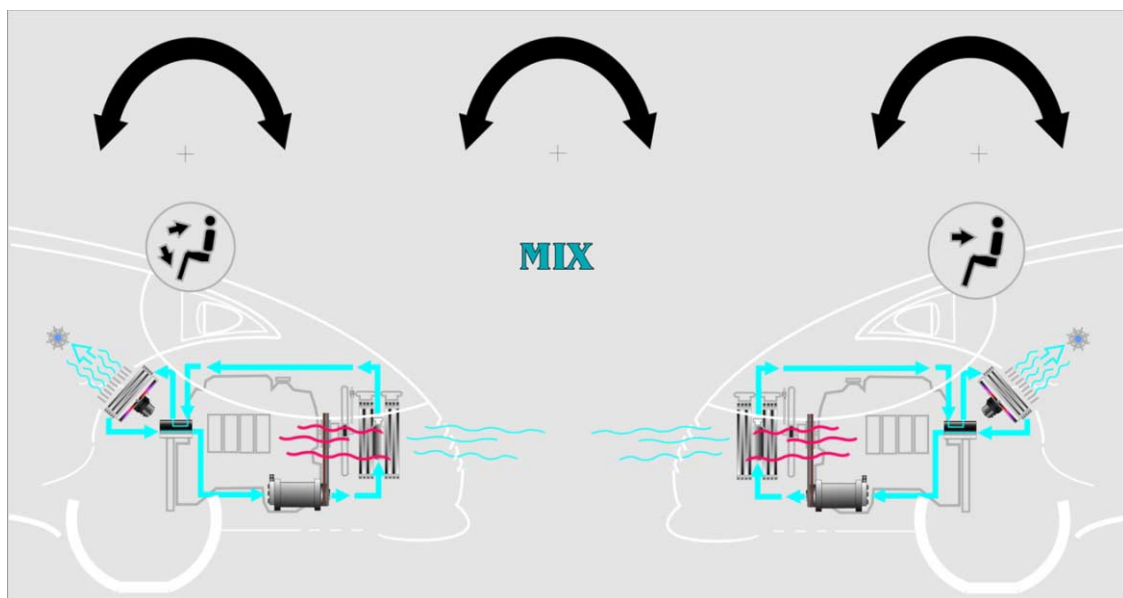
This unit is composed basically by a compressor which is triggered by an engine which simulates the automobile engine. The air enters by the fans through the condenser inside the cooling system, in order to suffer a cooling cycle through this system.

The unit has been designed to study not only the air conditions change, but also the cooling circuit.





Ventilation motors visualization panel



SPECIFICATIONS

Bench-top unit.

Anodized aluminium structure.

Panels and main metallic elements in stainless steel.

Diagram in the front panel with similar distribution that the elements in the real unit.

2 Fans.

Condenser.

Compressor.

Filter.

Electrical engine (to simulate the car combustion motor).

Evaporator.

Expansion valve.

Refrigerant tank.

Automobile control panel, including fans control, temperatures control, electric motor control, etc.

Ventilation motors visualization panel.

Enthalpy diagram R134a.

Cables and Accessories, for normal operation.

Manuals:

This unit is **supplied with the following manuals:** Required Services, Assembly and Installation, Starting-up, Safety, Maintenance & Practices Manuals.

EXERCISES AND PRACTICAL POSSIBILITIES

Some Practical Possibilities of the Unit:

- 1.- General use of the air conditioning.
- 2.- Cooling with and without internal circulation.
- 3.- Speed of the automobile engine.
- 4.- Cooling in function of the radiator fans.
- 5.- Cooling in function of the automobile inlet fan.
- 6.- Energy balance in the evaporator.
- 7.- Matter balance in the evaporator.
- 8.- Experimental determination of the specific calorific capacity of the air.
- 9.- Optimum determination of the parameters involved in an air conditioning process.

REQUIRED SERVICES

- Electrical supply: single-phase, 220V/50Hz or 110V/60Hz.

DIMENSIONS & WEIGHTS

- Dimensions: 1560 x 860 x 760 mm. approx.
- Weight: 100 Kg. approx.

RECOMMENDED ACCESSORIES

For refilling R134a refrigerant and maintenance, we recommend:

- T/KIT1. Maintenance Kit, containing: vacuum pump, hoses and manometers.
- T/KIT2. Maintenance Kit, containing: leakage detector.
- R134a refrigerant (to be acquired by the customer locally).

AVAILABLE VERSIONS

Offered in this catalogue:

- **TAAU. Automobile Air Conditioning Trainer.**

Offered in other catalogue:

- **TAAUC. Computer Controlled Automobile Air Conditioning Trainer.**

*Specifications subject to change without previous notice, due to the convenience of improvements of the product.



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